

# Personal Protective Equipment (PPE)

## OSHA Standard 29 CFR 1910.132-139

Under a regulation of the Occupational Safety and Health Administration (OSHA), an employer must meet specific requirements concerning "personal protective equipment" (PPE), such as gloves, goggles, hard hats, face shields and ear muffs. The regulation also gives employees specific rights concerning PPE. Below you will find basic information about the regulation and strategies that can be used to eliminate hazards up front, if possible, and protect employees from hazards that cannot be eliminated.

### What must you do under the Personal Protective Equipment (PPE) regulation?

#### 1. *You must conduct a hazard assessment*

OSHA requires employers to:

- a) survey the workplace to identify hazards, (this survey must be in writing and must be available to workers or their representatives upon request),
- b) determine whether any hazard requires PPE,
- c) pay special attention to working conditions or processes that can produce the following hazards:

- Falling objects
- Objects that could puncture the skin
- Objects that could roll over workers' feet
- Toxic chemicals
- Heat
- Harmful dust
- Radiation

d) re-assess hazards whenever necessary, especially when new equipment is installed or following accidents. Any reassessment must be in writing and must be available to workers on request.

#### 2. *You must select appropriate equipment*

The employer must ensure that all PPE used is the right kind of equipment for the job, and that it is maintained properly -- even when workers are using their own equipment. Every employer must ensure that:

- PPE provides a level of protection above the minimum required to protect the worker,
- all PPE fits properly,
- no defective or damaged PPE is used,
- all PPE is properly cleaned and maintained on a regular basis.

#### 3. *You must train workers who use PPE*

Employers must train all workers who use personal protective equipment. Training must cover:

when PPE is necessary,  
which PPE is necessary,  
how to know if it fits properly,  
how to put on, remove, adjust and wear PPE,

Training must be given whenever working conditions change, or when new or different PPE is used, or if a worker does not understand or remember any topic in the training. Employers must certify in writing that each worker has received and has understood the training.

### **When should personal protective equipment be used?**

OSHA is very clear that PPE must be provided as a last resort, when other measures cannot provide enough protection. The employer is required to first make efforts to eliminate or minimize hazardous working conditions. The best way to protect workers against hazards is to control problems at the source.

### **Are there problems with using personal protective equipment?**

Wearing PPE can be uncomfortable (especially in hot weather) or awkward, and many people complain that it gets in the way of doing the job. Although PPE cannot usually completely protect the wearer, people often get a false sense of security when they use it. Also, PPE protects only the person wearing it and many people may not be able to wear PPE due to certain types of medical conditions. Problems such as incorrect fit, use of the wrong PPE for the job, use of damaged or poorly maintained PPE or inconsistent PPE use can all result in less than adequate protection. It is always preferable for the employer to remove or minimize hazards.

## **Types of Personal Protective Equipment**

The PPE regulation (also known as a standard) covers all private-sector workers in general industry who are exposed to hazardous processes, conditions, and toxic substances. The legal citation for the general PPE standard is 29 CFR 1910.132. (CFR stands for Code of Federal Regulations.) There are additional standards that cover different specialized types of PPE. (They are discussed below). Here is what OSHA requires for specific types of PPE and where you can find it in the Code of Federal Regulations.

### **EYE AND FACE PROTECTION 29 CFR 1910.133**

Goggles and face protection must be used when workers are at risk from flying particles, liquid chemicals, acids or caustic liquids, chemical gases or vapors. Workers must also be protected from radiation during welding, torching, soldering, and brazing, or other operations that emit light. Goggles and face protection must meet certain design criteria for safety.

### **HEAD PROTECTION 29 CFR 1910.135**

Hard hats must be worn where there is a danger of falling objects. Specialized hard hats are required to reduce electrical shock hazards. The OSHA standard contains a chart to aid in head gear selection.

### **FOOT PROTECTION 29 CFR 1910.136**

Safety shoes with impact protection are required in work areas where heavy objects or tools could be accidentally dropped on the feet. Safety shoes with compression protection must be worn where objects could roll over workers' feet, and in operations involving skid trucks, hand trucks, dollies, etc. Safety shoes with puncture protection are required when working around nails, wire, tacks, scrap metal, and other objects that could pierce the feet.

### **HAND PROTECTION 29 CFR 1910.138**

Gloves are required to protect workers from cuts, scrapes, punctures, burns, chemical absorption, or temperature extremes. It is crucial that the type of glove being used is the right one for the job since incorrect gloves may provide no protection. This is a particular problem with chemical absorption where incorrect gloves may allow certain chemicals to reach your skin - and you may be unaware that it is happening. Charts that can assist in determining the right gloves for the job are available from glove manufacturers.

#### HEARING PROTECTION 29 CFR 1910.95

Appropriate ear muffs or ear plugs must be made available as a last resort if it is not possible to make the workplace less noisy. This requirement is a small part of the Occupational Noise Exposure standard, which requires employers to ensure that workers are exposed to less than 90 decibels of noise over an 8-hour day. If noise levels reach 85 decibels over an 8-hour day, the employer must develop a hearing conservation program as outlined by the regulation. If no other method of eliminating or reducing the noise exposure is found, the employer must supply PPE.

#### RESPIRATORS 29 CFR 1910.134

Appropriate respirators must be worn as a last resort, if it is not possible to ventilate the work area properly. Known as the Respirator Protection standard, this regulation requires that employers develop a written, comprehensive respiratory protection program for all workers who are required to use respirators on the job.

# **PERSONAL PROTECTIVE EQUIPMENT RULES**

## **GENERAL**

1. Proper clothing must be worn and appropriate personal protective equipment must be used. The supervisor will inform employees of the specific personal safety equipment that must be used for the job.
2. All safety equipment must be inspected for defects daily and before each use. If a defect is discovered, it must be reported to the supervisor immediately.

## **HEAD PROTECTION**

1. Hard hats must be worn where there is a potential danger of head injury from impact, electrical shocks and burns, and falling or flying objects.
2. Hard hats may be removed and placed in vehicles when operating such equipment.
3. Hard hats should be water resistant, acid resistant, fire resistant and should not conduct electricity.
4. Ensure head protection is in good condition both on the inside as well as the outside. The outer shell must be free of cracks or other damage and the suspension inside must be free of defects. If head protection is damaged or uncomfortable, notify the supervisor.

## **FOOT PROTECTION**

1. Shoes and other foot protection must be appropriate for the type of job being performed. Safety shoes can prevent serious injury and lost time. Safety shoes should be kept in good repair for safety reasons as well as for comfort.
2. All employees on construction and maintenance jobs are required to wear hard leather shoes with hard soles. Steel-toed shoes or boots, as well as reinforced inner soles (to resist nail punctures) may be required. Tennis shoes, sneakers, jogging shoes or other soft-soled shoes are not allowed on the job site.
3. Some jobs may require metatarsal guards in addition to safety-toe shoes.

## **EYE/FACE PROTECTION**

1. Suitable eye and face protection must be worn by all employees to offer protection from hazards encountered in chipping, grinding, buffing, boring, breaking, welding or similar work that subjects the eyes and face to flying fragments. Chemical eye goggles must be worn when there is a danger of injury to the eyes as a result of heat or chemical reactions. This rule also applies to employees whose job assignments require them to work with pesticides.
2. The eye protection prescribed for a particular job must always be worn. Safety goggles can prevent injury to or loss of eyes. Additional protection,

such as face shields, welding helmets, colored goggles, etc. may be required for certain occupations.

- (a) Employees with vision in only one eye, or those who, in the opinion of the designated medical provider, have such limited vision that they may become permanently disabled if they receive an eye injury while on the job, are required to wear the eye protection prescribed by the employer at all times while on company property.
  - (b) Because of certain inherent hazards associated with contact lenses, they must not be worn unless specifically authorized.
  - (c) Tinted safety glasses cannot be worn on the job without prior approval.
3. Eye protection must be worn at all times on jobs or in areas that present the slightest danger to eyes. It is up to the supervisor and the safety coordinator to determine the proper eye protection for the specific hazard. It is the employee's responsibility to take advantage of, and even insist upon, the available eye protection.
  4. If eye protective gear is bent or damaged notify the supervisor. The supervisor will either arrange to have it adjusted or provide undamaged equipment.
  5. Face shields may be required for certain tasks. They provide more ventilation than other types of eyewear. They are sometimes required with safety glasses or goggles for greater all-around protection.

## **RESPIRATORY PROTECTION**

1. It may occasionally be necessary to work in dusty, chemically impure, gaseous areas or areas where there is a lack of oxygen. Work in such areas may only be done under the direction of an authorized supervisor. If a respirator is prescribed for safety purposes, it must be worn, as survival may depend on it.
2. Prescription glasses or facial hair may interfere with the proper wearing of a respirator. Employees who wear glasses or have facial hair should check with the supervisor before using a respirator.
3. There are many different types of respirators. The correct type will be provided for the job at hand. It is imperative that respirators not be switched among employees. Not only is this an unsanitary practice, but another respirator may be designed for a different use, and thus be ineffective. The company's respirator maintenance program must be adhered to.
4. If a facility has respiratory protection for emergency use, employees should know where the respirators are kept, when they should be used and how to properly use them. No respiratory protection devices should be used without instruction.

## **HAND PROTECTION**

1. Hand protection is needed for some work, such as handling or working with sharp metal, rough edges, hot materials or chemicals. The type of glove will depend on the substance or material being handled. Verify proper hand protection with the supervisor.
2. All employees engaged in welding operations must wear approved gloves.

## **HEARING PROTECTION**

1. Approved hearing protection devices such as earmuffs, ear plugs or ear canal caps may be required. Signs, other marking systems or the supervisor's instruction will dictate when and where such noise protective devices must be worn.
2. Cotton balls, hearing aids and portable radio or tape player earphones are not acceptable hearing protection devices.

## **ADDITIONAL BODY PROTECTION**

1. Arm protectors, fire-retardant clothing, disposable overalls, rubber aprons, leggings, etc. may be required for certain jobs. When protective clothing is prescribed, it must be worn. Protective clothing must be in good condition and fully protect the wearer from the hazards for which it is required.
2. All employees who work in or near the public right-of-way must wear fluorescent vests. (This rule does not apply to police officers in all cases.)

## **FALL PROTECTION**

1. Employees who are required to work above floor or ground level must protect themselves from falling.
2. Safety harnesses and lifelines are necessary if walkways, toe boards, guard railings or other safeguards cannot give full protection.
3. Safety belts are prohibited. Only safety harnesses with appropriate lifelines and lanyards are acceptable fall protection.
4. When attaching lifelines, adjust to allow only a drop of a maximum of six feet in case of a fall.

## **HAIR AND CLOTHING**

1. Employees working around moving machinery must keep hair neatly trimmed or tucked under a properly fitting hat.

Loose-fitting clothing and jewelry must not be worn around machinery or when working on structures.

# **Personal Protective Equipment**

## ***Safety Training Handout***

**Our jobs are such a common part of our lives that it is sometimes difficult to remember how dangerous they can be.**

### **■ Risks to you in the workplace**

- Puncture wounds, bruises, amputations, severed arteries and broken bones
- Eye damage, blindness and hearing loss
- Burns, internal bleeding and permanent skin damage

### **■ You can protect yourself**

- Goggles, face shields and safety glasses protect your eyes
- Ear plugs and muffs protect your hearing
- Gloves protect your hands
- Respirators prevent hazardous particles from entering your body
- Hard hats protect your head
- Protective clothing guards your body
- Safety shoes protect your feet

### **■ Damaged equipment will not protect you**

- All personal protective equipment should be inspected for cracks, tears, scuffs or any other factor that may make the equipment ineffective
- Using damaged equipment will result in the same injuries as if you were not wearing any type of equipment at all. If you believe your protective equipment is damaged, give it to your supervisor for disposal
- Here are some examples of what you should be looking for:
  - Scratches on protective eyewear not only interfere with your ability to see what you are doing, they can weaken the structure of the lenses and its resistance to impact. Using glasses when lenses are broken will cause even greater injury, potentially to other body parts
  - Gloves that are cracked or cut, will not protect you from punctures or cuts
  - Hard hats that are cracked will not protect you from head injuries
  - Shoes with separated soles will not protect you from toxic spills or electrical contact
  - Clothing that is ripped will not protect your body from sharp or rough materials that can cause cuts and bruises. Tight-fitting clothing that loses its elasticity does not provide protection from cold or warm conditions